Topics in Global Food Animal Systems: Livestock Ownership and Environmental Enteric Dysfunction



Project Title	Topics in Global Food Animal Systems: Livestock Ownership and Environmental Enteric Dysfunction
Project Summary	Support the Food Animal Systems Team in the Bureau for Resilience and Food Security at USAID by performing a literature review and landscape analysis on the linkages between food animal ownership, hygiene practices, and environmental enteric dysfunction using a One Health approach.
Country	United States

Project Description

The Bureau for Resilience and Food Security (RFS) houses four technical centers: the Center for Ag-Led Growth, Center for Water, Center for Nutrition, and the Center for Resilience. Food Animals are a cross-cutting topic for the Bureau as they contribute to agricultural production, economic prosperity, nutritious diets, and resilient populations. The Food Animal Systems Team within RFS is comprised of livestock and aquaculture experts representing various equities including agriculture, nutrition, and resilience. This team collaborates to provide technical assistance to Missions, assist with livestock program design, and elevate the importance of livestock and fish within the bureau. This team is seeking an intern to perform a literature review and landscape analysis on linkages between livestock ownership, hygiene practices, and environmental enteric dysfunction (EED), a subclinical disorder of intestinal function common in young children in tropical countries and in settings of poverty and economic disadvantage.

There is a significant body of evidence related to livestock ownership and its positive effects on economic and nutritional outcomes. A recent area of research explores the connections between livestock ownership, animal husbandry and EED including sanitation practices, exposure of children to animal feces, and comparative diversity of gut microflora populations between livestock and non-livestock owning households. Reducing exposure of children to animal feces and pathogens including Salmonella, Campylobacter, and E. coli in a low resource setting is a complex challenge which will benefit from a multisectoral One Health approach to develop practical solutions. The aim of this project is to perform a literature review and generate a report on current knowledge about EED, the linkages between livestock ownership and EED in developing countries, and emerging best guidance emanating from studies and field trials. This can include, but is not limited to, interventions to reduce EED among livestock owning households, studies that explore the gut health and nutritional statuses of members of livestock owning households, and genomic analyses that link bacteria in livestock to those seen in the guts of the humans that own them.

The landscape analysis will help identify any existing programs addressing EED and livestock in developing countries. This will be accomplished through reviewing work of USAID, our partners, and other donors to determine what work is ongoing that helps to elucidate the comparative positive and negative impacts of

livestock ownership. The intern will engage with offices and partners to determine if they have any ongoing EED programming. The final deliverables will be a database of relevant literature and a written report consolidating the findings of the literature review and landscape analysis. If the intern has a desire, they can deliver a virtual presentation synthesizing their findings.

Required Skills or Interests

Skill(s)

Analytical writing

Graphic design

Research

Additional Information

To see some of the work of our partners including the Livestock Systems Innovation Lab, please see this website: https://livestocklab.ifas.ufl.edu

Outside of the primary project, the intern will be invited to Food Animal System Team meetings to gain an understanding of the team's role in providing technical assistance and thought leadership to the field. The intern will also be given the opportunity to contribute to team priorities per their interest and availability as well as gain a broader understanding of the role of USAID in promoting and supporting the global effort to achieve food security for the most vulnerable populations through the U.S. Government's Feed the Future Initiative.

The Food Animal Systems team at RFS is a close knit and diverse group within RFS. The intern will receive mentorship from all team members and gain an understanding of the collaborative nature of USAID. An intern with an interest or background in any of the following areas is ideal: livestock production, animal health, behavior change, hygiene practices, or One Health.

Language Requirements

None